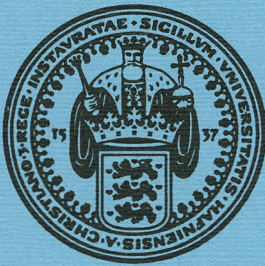


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Proof of the AaO Formula**

**Bernhard Bierschenk**

**2018**

**No. 137**



**Copenhagen University  
Denmark**



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## Kant's Proposition on Respect Proof of the AaO Formula

Bernhard Bierschenk<sup>1</sup>

*Abstract* The Proof on Kant's proposition on respect requires the processing of textual movement pattern as a holistic property. Since this involves a means for looking at Kant's energy investment into movement cycles, a stepping function must be applied in the materialisation of strings of graphemes. In departing from the biophysical hypothesis that the Agent-action-Objective [AaO] principle takes account of reversibly synthesizing rotary mechanisms, it is suggested that one or more A- and O-components rotate against the others. By separating the [A] and [O] components, cycles of integrated movement patterns become specifiable. It will be proved that language can be treated as a bio-kinematical system, which is exhibiting periodic behaviour. Magnitude and direction need to be calculated and presented in the form of Potential Energy Surfaces (PES). Their roots need to be explained based on their global state attractors. Both roots are named *Necessity* since the first and second has finalized in *Necessity*. The evolved textual shapes and their transformation into energy landscapes are discussed in relation to their differently organised mental invariants and terminological validity. However, sameness of the **Roots** of Intention and Orientation could not be expected or read out from the surface of the produced text.

### *Style of Writing*

The style of writing in natural language production must be conceived of as depending on inherent rhythmic driving forces and on correspondingly intrinsic dynamical changes in the textual flows (I. Bierschenk, 1999/2003). Based on the Kantian formula, it will be shown that a system of produced [AaO] units has the capacity to keep track of intention and orientation and to fuse the textual segments that temporarily are fitting into the information structure, developed over Kant's proposition on respect.

The Kantian approach is part of a research program oriented toward the methodology of studying the individual's way of becoming conscious of himself and his surrounding world, i.e., "knowability" (B. Bierschenk, 1984). The major assumption made is that the co-operation of a knower with a knowable environment can give a clear-cut understanding of the "mental invariants" as well as the "contextual constraints" that are assumed to enclose behaviour. This approach toward knowing makes fully use of Kant's (1785-1798; 1975) definition:

*Original text* „Handle so, daß du die Menschheit sowohl in deiner Person, als in der Person eines jeden andern jederzeit zugleich als Zweck, niemals bloß als Mittel brauchest.“[7. Kant, GMS, S. 79.] (GMS): Grundlegung zur Metaphysik der Sitten.

So act as to treat humanity, whether in your own person or in another, always as an end, and never as only a means." (The Editors of Encyclopedia Britannica See Article Categorical imperative).

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The underlying fundamental assumption is that the processing of the text from the inside out will reflect Kant's need to attune his writing in agreement with a predetermined (internal) order, which means that the Agent [A] and Objective [O] components of the [AaO] system are independent of the empirical context. As a result, the **AaO-proof** does not depend on parameter fitting but it must be established through the processing itself.

The problem of analyzing text is conventionally solved with analytical model and/or statistical procedures, which all require commutative, i.e., linear methodologies. The statement may be underlined by the axiomatic foundation of the classical frame approach compared to the non-classical schema approach. Table 1 is summarizing the paradigmatic peculiarities

**Table 1**

*The concepts of frame and schema*

Axiomatic Foundation

Analytic Frame	Operation $p(X); p(Y)$ Independence	Association $Y = f(X)$ Connectivity
	Cooperation $A \rightarrow a \rightarrow O$ Affinity	Coordination $A \rightarrow a \rightarrow (A \rightarrow a \rightarrow O)$ Entanglement of States

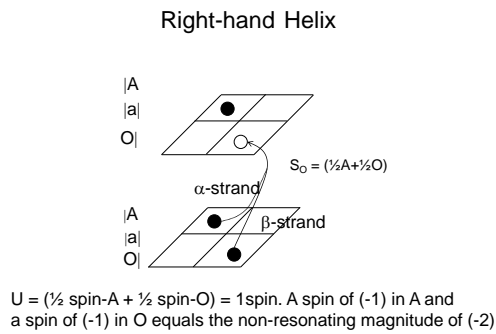
The notion *frame* in Table 1 is commonly conceived as the ideal starting point for an analytic operation and exploration of the associative connection in the human brain. Especially with reference to, the  $[p(X)]$  proposition, where (p) stands for the predicate and (X) for the argument, there are no signs of a critical discussion of the proposed connectivity in the neuronal machinery of the brain. It may sound provocative but the present approach competes with all simple linear system strategies by which emphasis is placed on normative theories, classification and organisation as used in the collection of variables for the set-up of complex catalogue of indicators. Although so-called qualitative methods have been developed, they suffer from the same methodological deficit, and the failure to observe and measure *intention* with precision.

The notion *schema* in Table 1 may cause some confusion, because representatives of various scientific fields use it with the unambiguous sense of frame. It is applied within computer science and linguistics, for example, in the notion *sentence schema*, which means something constructed to make visible syntactic patterns. However, their schema concept is a data-holding device and builds on semantic decisions of which words take which positions. The hypothesis in Table 1 is that a schema is axiomatic, something a priori, which cannot be constructed. As such it is structurally bound. The positions in operation are only two, either before the verb, the A-place, or after the verb, the O-place. The two positions form the widest possible openings for the revolving process to come about. In this way, the schema is put into function by the model but is not the model.

Fundamental to the *schema* hypothesis is that componential splitting implies a valid observation concerning the evolutionary dynamics of language as well as the thermodynamic limits that are at work in text production (B. Bierschenk, 1991, 2005).

Furthermore, in capturing rotating strings of graphemes through the Functional Clause (FC) (introduced in I. Bierschenk 1992, p. 10; elaborated in I. Bierschenk, 1999/2003),

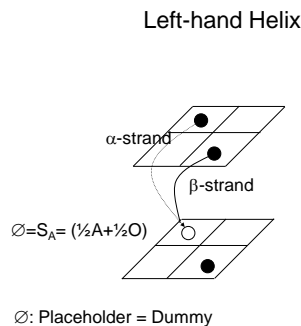
resonance properties need to be observed and measured by localising the strings on opposite dots as shown in the planes of Figure 1.



**Figure 1** *Reversible synthesizing rotation*

With reference to Figure 1, it is proposed that a single AaO unit may be split into subunits. Additionally, it is suggested that one or more sub-units of the AaO mechanism rotate against the others. Therefore, a reversible synthesizing rotary AaO-motor is anticipated which has the function of letting sub-components being transformed from one state into another state.

In separating the dots in the first plane through the V-function, two types of dots can be identified: A filled dot, which relates to a string of graphemes, and a non-filled dot, which represents a virtual string. Moreover, in using the gating function of FC as key building block, it is demonstrable that a non-filled dot has the function of a placeholder. However, placeholders perform the task of channelling the strings on a filled dot coherently into vertically aligned compositions. The production of compositions is explainable as a path, which is transited with various rotational speeds. As shown in Figure 2, gating leads to the generation of channels.



**Figure 2** *Irreversible synthesizing rotation*

The concept of *channel* allows for the introduction and definition of neighbourhood and distance. Both are of particular import in the establishment of a language space and the demonstration of the evolutionary properties of composites. Moreover, channelling and the formation of entangled states necessitate observations on the gradient dynamics in the developing of sequencing space. The primary focus in a functional string-grapheme approach and the subsequent expression of distance is the position of a grapheme composite. Since the expression of *winding* (W) relates to the evaluation of angular articulation, changes in attitude

can be demonstrated through reversible as well as irreversible synthesizing rotations in the mathematical sense.

The fact that channelling leads to the generation of layered compositions has been used in the operational definition of the concepts of *speed* and *acceleration*. In the straightforward application of these concepts, it is possible to derive the dynamic properties of a composite from the recombination of the string spectrum. Moreover, locally constraint movement patterns can be evaluated based on local fluctuations, which appear as global.

Now, if the context for componential rotation is conceived of as part of a resulting synthesis, related text generation may be viewed as the outcome of componential variability. Using component vectors directly means that *un-normalised* vectors are *eliminating the computational cost of normalisation* (Hestenes, 1994, p. 72). It follows that the A- and O-spinors at the ecological level must reflect lawful regularities (B. Bierschenk, 2002). In representing particular rotations, it can be stated that the A's and O's at the left-hand side of Figure 1 allow for the determination of the *orientation* in the rotational behaviour of the dots.

Whenever two borders are defining the orientation in a rotational transition, the dots are operating in areas. From a kinematic point of view, the areas of an [AaO] unit are incorporating definite borders. This means that a unit is embracing spherical properties. Nevertheless, the determination of the orientation of the dots' rotation within the spherical space is only achievable through their bonding to the A's and O's. ***Hence, the proof is in the processing!***

Thus, when a component makes up the context, cooperation between intention, associated with [A] and orientation, associated with [O] is no longer the objective of the physical conditions of making experience. Instead, it is the hyperbolic determination of regional as well as global states of attraction. Thereby, new constraints are produced, which pass beyond the limit of their material sources. The major premise of the *schema* approach is that a componential rotation is always produced with a perspective that is unique to its originator.

### ***Coupling and Entangling of States***

In a straightforward application of the introduced levels, it will be possible to derive the dynamical properties of coupling and entangling from the measured transitions through the ( $\emptyset_\alpha$ ) and ( $\emptyset_\beta$ ) dummies. According to the relations, which were shown in the Figures 1 and 2, capturing a change in the resonance ( $\Delta_s$ ) properties of a string requires the localisation of the states of strings on opposite dots.

In separating the dots in the first plane through the energy ( $V_1$ )-function, two types of dots can be identified: A filled dot, which indicates a non-relaxed state and a non-filled dot, which implies a relaxed state. As a consequence, a string must revolve around the energy component ( $V$ ). Thereby, resonating as well as non-resonating strings are reciprocally specified and determined by time-dependent shifts. Calculating the range of a movement means calculating the winding [ $\Phi = \theta_1 - (\sqrt{\phi_2} + \sqrt{\theta_2})$ ]. This measure generates the ground for transformations on the produced sequences. Geometrically conceived, winding requires a share in the prismatic face of a particular variable.

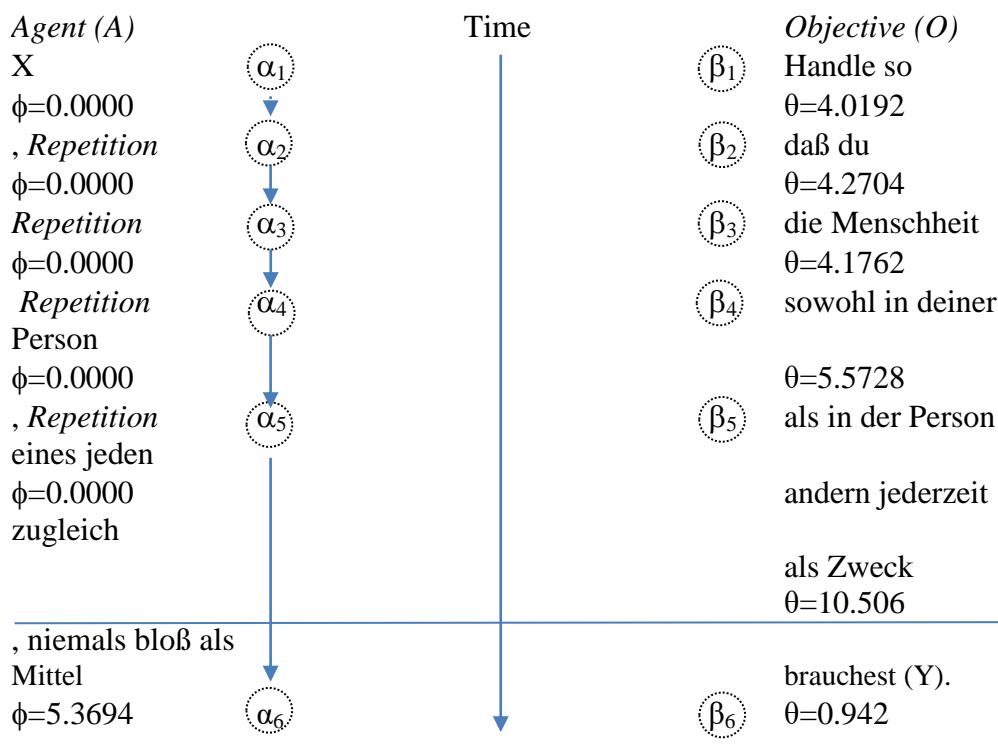
The crucial import of local string interaction can be demonstrated only through a rotation-governed processing of specific changes in angular articulation. Every folding of a segment of a strand is treated as an expression of the variable's resonating property. Thus, the winding magnitude of a strand is taken as basis (1/1). Since it is an expression of the strand's contextual circumstances, its surface-oriented *curling* plays a complementary role, which is accounted for by adding the fraction of (1/10) as *curling value* to the basic *winding value* of the strand. Thereafter the contextual fitness value is added as a *valve fraction* of (1/100) of the winding-value, but multiplied with the *number of graphemes*. This procedure is reiterated

for every segment. If a segment is growing, this lowers the short-distance sensitivity of a strand and increases its folding capacity.

Since materialised strings appear at the textual level as graphemes, they mark certain resonance properties. This means that text movements must be related to string-variety as well as grapheme-variability. In view of the fact that the individuality of a string manifests itself through the presence or absence of a grapheme, uniqueness in resonance and growth appear at the kinematic level as a movement, which is observable through the calculation of magnitudes. If the bonding of the  $(\alpha, \beta)$  variables in the movement would appear to be dependent only on a linear relationship, its text space would appear stationary. However, the strict dependency in the bonding is governing channelling and refraction. Since, it has been possible to express the overall dynamics in a sequence as distance from the thermodynamic equilibrium it has been possible to show that this circumstance prevents the production of stationary results.

By handling every single component in a (A-O) pair individually, the component is following its own autonomous rhythm. The [AaO] system is capable of establishing two autonomous clocks, namely the A-clock governing the A-component and the O-clock governing the O-component. Unless measuring and observing of componential behaviour is related to proper biological time scales, measuring cannot be accounted for with exactness. In addition, the dynamics of a component must be related to intention. In producing dynamic movement patterns, the individuality in the clocking of a component can be imaged through PTA/Vertex (I. Bierschenk & B. Bierschenk, 2011).

### Imaging Textual Flow



**Figure 3** Coding protocol of the Kantian quotation

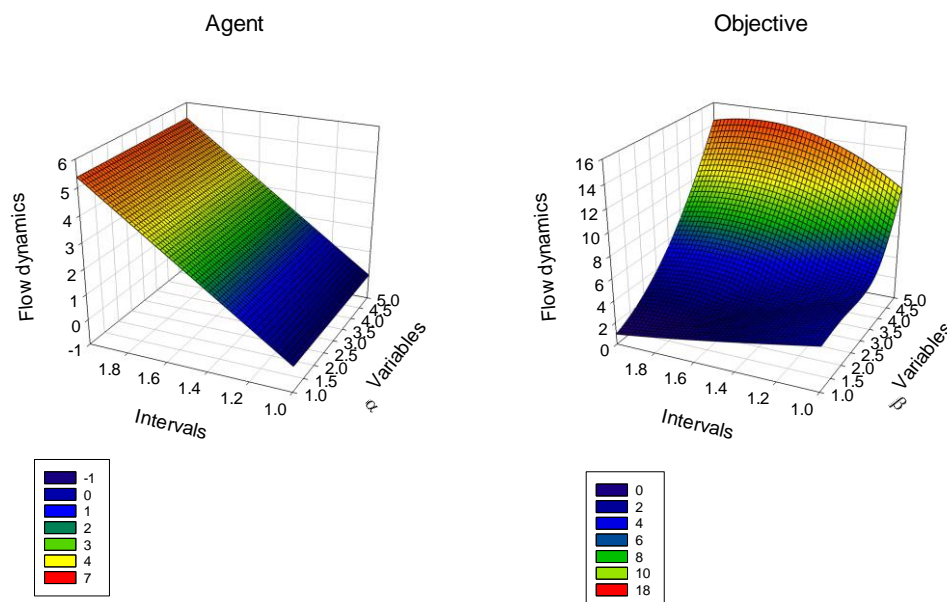
To begin with, *Repetition* or reiteration it is shown that  $(\alpha_1)$  provides the basis for the copying into the position  $(\alpha_2)$ . Its disc is indicating that the copying implies a transfer of  $(\alpha_1)$  of the immediately preceding textual agent. The same kind of reiterative copying appears once

more, however, now involving  $(\alpha_3)$ ,  $(\alpha_4)$  and  $(\alpha_5)$ . Computing the magnitude of  $(\alpha_6)$  means that a new variable is expressed.

In contrasting the A-path with the O-path, it turns out that no reiterations are observable in the  $(\beta)$  variables. The graphical computation of the textual equations has shown that the governing  $(\alpha)$  variable is doubled whenever two or more  $(\beta)$  variables appear within one and the same action (verb) range. Within the conceived set of specifying conditions, Repetition implies reusing without alteration of the active agent. Thus, the special character of the notation appears through the *Repetition* of the active agent. Furthermore, the *Repetition* of a grapheme configuration leaves the winding factor unchanged.

### Potential Energy Surfaces (PES)

In contrast, reusing with alteration would mean the addressing of a root and thus would change the winding factor. Especially the *Repetitions* in the first interval will be shown to shape a plane surface. However, when a shift enters into the process, it is changing the course of the winding path. The complementary property in the last variable of the second interval suggests a significant shift, which contrasts the magnitude of the  $(\beta_6)$  variable. How this difference has influenced the angular articulation can be comprehended through Figure 4.



**Figure 4** *Resonance in the Kantian proposition*

The underlying fundamental assumption is that the processing of the text from the inside out will reflect Kant's need to attune his writing in agreement with a predetermined (internal) order, which means that the Agent [A] and Objective [O] components of the [AaO] system are independent of the empirical context. As a result, the **AaO-proof** does not depend on parameter fitting but it must be established through the processing itself.

The spaces have been produced with SigmaPlot, 2008, Version 13. The X-axis of the presented Agent space marks the number of produced  $(\alpha)$  variables. How the alpha variables are sliding within a particular interval, is made apparent with the controlling parameter on the Y-axis. The latter depicts the intervals, which are characterising the naturally occurring periods and fractions of periods the way they have become manifest during language production. Finally, the Z-axis gives expression to the dynamics as measured in radians.



### *Unfolded Agent space*

The purpose with the presentation of Agent space has been to make evident that natural language employs its own intrinsic systems of coordinates. Further, the unfolded space has the task to manifest that their production is generating complex geometric forms, which are carrying information concerning the depth in a particular textual flow. The flows have to be conceived of as “super-fluids” (Wisdom, 2003), responding as “super-strings” (Baeyer, 1999) in an expandable way to the dynamics of evolving textual flow patterns. It is therefore not a coincidence to suggest that a text material must be characterised by flow properties and that these are decisive for the rotational dynamics, and consequently for the realisation of space. It follows, that the unfolding of “spacetime” (Wheeler, 1998, p. 235) concept requires the concept of evolution and the establishment of morphogenesis. Wheeler wrote: “Spacetime tells matter how to move, matter tells spacetime how to curve”. He explains it as follows, “a bit of matter (or mass or energy) moves in accordance with the dictates of the curved spacetime where it is located”.

The deep part of the Agent space has come into existence, because its curvature is evolving just above sea level. On the other hand, the spin structure of the ( $\alpha$ ) variables is always winding in a certain direction. When some of the developing waves are arrested at their tips, the corresponding shape winds up as a lace-shaped contour. From a biophysical point of view, breaking or lowering spatial and temporal symmetries is only natural, since evolving surface waves depend on the generation of discontinuities and asymmetries all the time. For example, the implicit specification of a change in the discourse is depicted as a steep. A steep appears at the distance between the first and second interval, which transforms the result in a non-stationary relationship.

### *Unfolded Objective space*

Another kind of drifting in the phase relations can be illustrated with the textual objectives of Figure 4. Obviously, the emerging Potential Energy Surface (PES) gives expression to a higher degree of successively increasing and decreasing magnitudes. It follows that this PES can be identified with variations in distance, which are shown to have corresponding effects on the specification of morphological variations.

In particular, the presented results give weight to the hypothesis that rotational dynamics is basic to the effects that selective string movements have on the formation of patterns in the evolving spaces. Finally, in adopting some basic concepts of Hestenes (1986/1993) theory of “invariant body kinematics” dynamic movement patterns have been studied based on a scalar component, which has been utilised in the form of radians. These are corresponding to the rotations in the A- as well as in the O-component of the established AaO-mechanism. It has been shown that direction and the rotational angle carry ecological validity. Hence, the presented method gives a precise measure of “attitude” change in the evolutionary development of text. Hence, the characteristic form of this kind of shapes implies a surface wave, which is describing a slope in the curvature, showing its local minimum in the second interval at the left-hand side. What has been expressed explicitly relates to some sloping downwards from right to left in the otherwise laced surface of the Objective space. Obviously, the operations that are unfolding this kind of curvature are mainly depicting an overall path with some profiled topical locations at ( $\beta_4$ ) and ( $\beta_5$ ).

Hence, experimentally, it is shown that text develops based on rhythmic and clock-like textual movement patterns. From the precision in the working of the involved clocks, topological consequences of rhythmic movements in text production can be extracted. Constraints and structural invariants are always tied to the second law of thermodynamics and consequently to the evolution of symmetry.

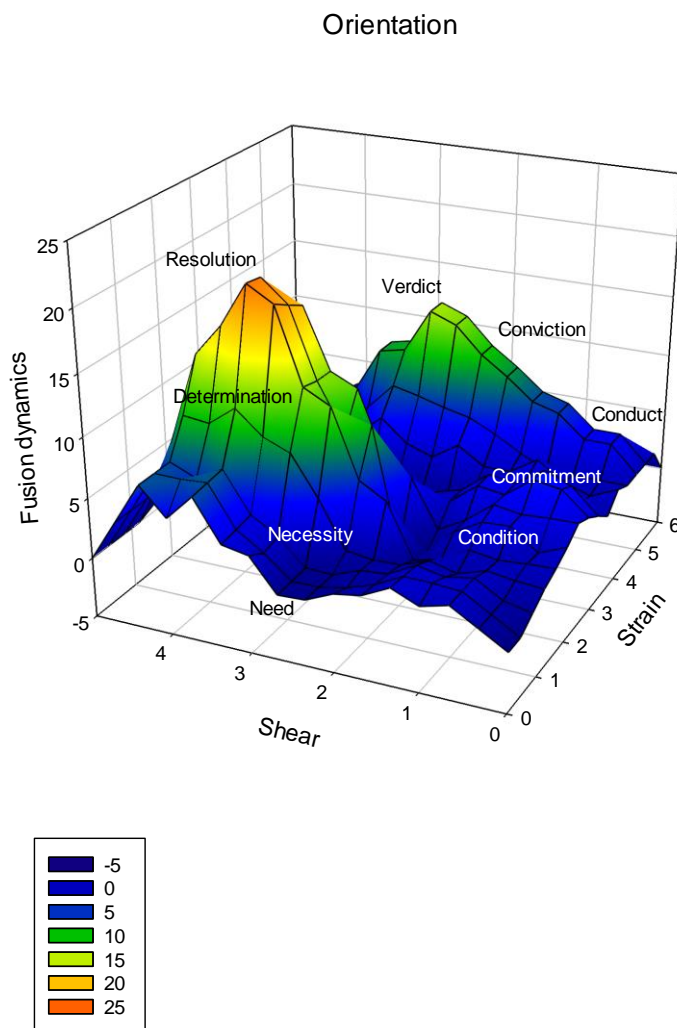
Since a kinetic potential has been defined as a local concentration of energy, the conservation of the kinetic potentials of the original text is a physical property. In this sense,

the kinetic potentials of Figure 4 relate to irreversible textual flow processes in the Agent and reversible flows in the Objective component. Conceived in the perspective of evolutionary language dynamics, the achieved measurements make manifest that irreversible processes may appear as instabilities at the kinetic level of text production. However, this observation requires further tests. Therefore, the experimental procedure will now be concentrated on the way in which the treatment of Kant's proposition will reflect differently organised mental invariants, operating on Free Energy Surfaces (FES).

### Free Energy Surfaces (FES)

The significance in the folding of the resulting compositions and their rotational distances as well as their thermodynamic validation depends on the determination of the virtual properties and the base that is manifesting the dimensions and their convoluted geometric shapes. Pronounced differences in the formation of mountains and valleys reflect the persuasive ideas that may become part of a *theory of self-respect*. The relationship between the information invariants in the Orientation landscape is designated by eight termini.

The aim with the naming procedures, applied to Figure 5, is to explain the attractors of FES. As demonstrated, an FES consists of nothing but a geometric pattern of mountains and valleys, i.e., the abstract configuration of attractors.



**Figure 5** *Termini of the Orientation dimension*

In contrast, the Intention landscape has been designated with two termini. How the process of producing and extracting the termini works has been described in the Manuals on Perspective Text Analysis (B. Bierschenk, 1993/2013, 2011; I. Bierschenk, 1989, 1999/2003, 2011; I. Bierschenk & B. Bierschenk, 2004).

However, if it shall be possible to orient oneself in this Energy Landscape (EL), it must be possible to transit the terminal states of EL and to manifest the results in the form of a transformation path. It follows that this operation must become recognisable in the form of termini. Since a terminus is the result of a transformation process, it incorporates both the “state” as well as the “dependency relation” between termini. A detailed description of the transformational steps involved in a sequence of attractors allows for a thoroughly controlled naming process. Further, the terminologically controlled state-changes are expected to lead to the “correct” communication of ecologically significant “information invariants”.

Thus, the transition through an EL is strictly controlled by the Mesh-systems (Ebeling, Scharnhorst, Montaña, & Karmeshu (1999) which are underlying the attractor relations. Since the integration process exists only over time it is generating the termini and is also correcting itself. Repeated transformations and crossing of one path with another allows for the integration of the consequences of having found the function in the form of structural relations. Thus, shifting experiences are provided during the naming, which is expected to lead to an understanding of the meaning of the transformation function.

The first terminus allowed to enter the Orientation space concerns the final singularity at the basin of the highest mountain. Its name concerns the behavioural expression of *Need*. In the first place, the terminus designates the **Root** of the Objective. In this sense, it is absolutely prior or basic to any other conception. Furthermore, the terminus in its near neighborhood is *Necessity*. Thus, a singularity is emerging and is getting a name, which is revealing the individual's capacity to develop out of his self-incurred immaturity. Since the latter is conceived of as self-inflicted, however not by a lack of training but by a lack of “*Sapere aude*” (in German: ‘wage weise zu sein’) which was the motto of Enlightenment (Kant, 1784).

In the background at the right side of the mountaintop appear the singularities *Verdict* and *Conviction*. Their realisation is addressing the transformations, which are involved in the establishment of behavioural autonomy. Thereby, autonomy implies in both cases self-legislation, which is governing one's conviction to follow law by self-constraining or self-motivating. Planned behavior means gradual changes that may take considerable time to become established. If the individual in question has, the necessary physical characteristics to develop the target behaviour it will gain some advantages over others with lesser capacity to adapt.

Thus far, the results outlined have shown that the formed concepts above all refer to the principled dimension in Kant's world and its significance for research on problems of human concern. Fundamental research on the problem with the human *Conduct* has uncovered and recognised the “principle of morality”, namely that “the morality of an act is a function of good will. However, its function is not based on what it performs but simply by virtue of the volition”.

By means of the attractor, *Commitment*, appearing in the neighbourhood of *Conduct* is marking a stage of resistance to unjust and consequently unworthy treatment of humans. The height of its top represents intense sensitivity to a need of fidelity. At some deeper level of processing, this means authenticity, which is picking up Kant's possible *Condition* that nothing can *possibly* be conceived without qualification, except a good will.

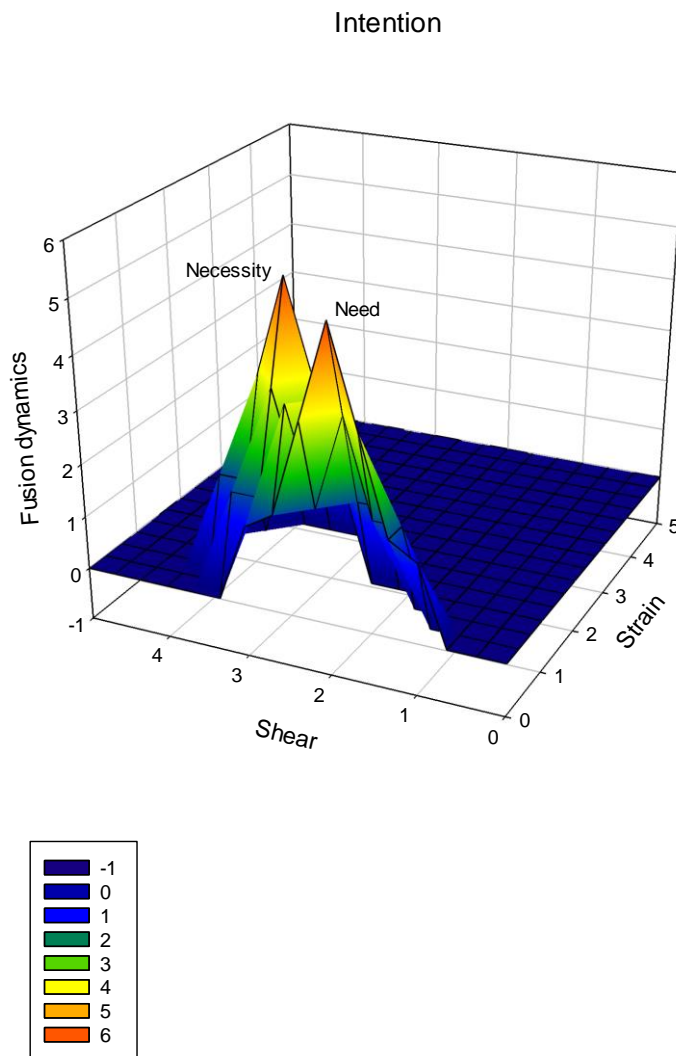
The *Condition of Possibility* is the framework that has been introduced by Kant with the purpose to investigate the most basic structures of experience because this structure will

coincide with the basic structure of any object that could possibly be experienced. Then knowing the conditions of experience will give us synthetic a priori knowledge of every possible object of experience.

*Determination* for synthetic *a priori* judgments that have bearing on the determination of human action, implies that two things inspire genuine awe: “*der bestirnte Himmel über mir und das moralische Gesetz in mir*” (“the starry sky above and the moral law within”). This proposition implies an agent, which is able to make things happen by his own free will and in a sensible world in which determinism is true.

### Intention

Concerning the forward and backward moves involved in the extraction of intention, it is demonstrated that cyclic processing means directing the swing of a cycle towards the terminus that constitutes the proper name of a certain singularity in the Intention space. For getting at the descriptive termini, it is essential to follow up the coupling of their underlying mesh-systems. Thus, besides constructing the mesh-systems for the separated A- and O-spaces one more step has to be taken. This step requires the coupling of the A-mesh with its complementary O-mesh. Hence, the necessary conditions for naming the attractors *Necessity* and *Need* of Figure 6 concerns their cyclic extraction out of the corresponding Orientation space.



**Figure 6** *Termini of the Intention dimension*



The coupling is the key for a successful communication of the information contained in the Intention space. The global minimum of the Landscape is defined by *Need*. Thereby, a condition is addressed which implies that something must be supplied for a certain condition to be maintained or a desired state to be achieved. A physical or functional *Need* is at the core of a particular process.

The process of extraction implies the work of a cyclic swinging pendulum that performs the action on the O-mesh. As illustrated in the Manuals of Perspective Text Analysis, the swings are associated with a clock, steering the Agent component. Hence, the irreversible forward-moves of the A-clock are co-ordinated with the forward and backward moves of the O-clock. Both clocks work counter-clockwise and thereby manifest the dependency-relations between the attractors in the Orientation and the Intention spaces. Cyclic and rhythmic extraction of the state-related termini from the O-spaces is producing the communicative properties of any single A-trajectory and is specifying its informational value.

The most striking difference in the transformations on the information invariants concerns the names, which are re-appearing in the mesh-systems of the A-component. Just by comparing the obtained results, an account can be given of the corresponding developments in differently coordinated mesh systems. Thereby, the couplings are generating transformative rotations, which constitute the foundation for the emergence of new relations. For example, the name of a new relation can follow itself or the naming of another state attractor. Thus, it is possible to show that it is an intentional phenomenon, which is reproducing certain names. In advancing the phenomenon of “looping” in the text producer’s argumentation, a name is forced to reappear in one and the same dimension. However, a name can also reappear on different dimensions and at different levels.

The procedures for generating termini and naming state attractors are producing symmetries. Since it is a new kind of conservation principle, it has been illustrated and described in the context of the “translation invariants”. At the terminological level, it is made evident that the produced conservations are of similar kind. Besides enabling an invariant formulation of the involved A-O-kinematics, it is made clear that the naming procedures facilitate an efficient communication of alternative mesh systems as well as their control variables.

By coupling the naming of alternative kinematic constraints, it has effectively contributed to the control and generation of a stable basis for the naming of the Intention dimension. Concerning the study, it has been made possible to demonstrate that the differently evolving names give expression to a deeply ingrained commonalty of the produced invariants. Thus, sameness in the naming of the **Roots** of Orientation and Intention cannot be read out from the surface of the produced texts, the name *Need* must be discovered.

With the purpose to provide a foundation for the explanation of the named state attractors, the resulting information has been conserved in the form of explicit descriptions. Consequently, both termini of the Intention space must incorporate both the state as well as the dependency relation between termini. The given order involved in the transformational steps allows a detailed description of sequences of attractors. Furthermore, a step-by-step explanation allows for the manifestation of thoroughly controlled naming processes. Finally, at the psychological level, terminologically controlled state-changes are shown to lead not only to a scientifically exact but also to a correct communication of information of mental significance.

### *Implication of the Concentration Spaces*

The extent to which a shape can give expression to the quality of a writing style has been made evident through a number of experimental studies. Since the acceleration of a

particular rotational progress is expressing the functional relation between the established radians and the intervals of the produced composites, order parameters are internally governing the expression of one's style of writing. The operations in a particular space are thereby forcing the radians to form the shape of a space. Thus, emerging are "shapes of time" (McNamara, 1997), which make it possible to achieve a "value judgement" (Williams, 1966, p. 101), namely a judgement of quality of a writing style in the spacetime framework.

Both the task environment and the internal dynamics of an [AaO] system define uniquely the working of the AaO mechanism. The reason for testing the rotations in the ( $\alpha$ ) domain with respect to its shape properties has been to get hold of the changes in the direction of the developing trajectories of intention. In retrospect, it can be stated that the invariance of the established concentration spaces has emerged through an evolutionary search for novel themes and motifs in complex energy landscapes.

The search has been based on the assumption that natural law together with selected materials furnishes an adaptation to complex systems and non-linear dynamics as well as an explanation for the complexity of the deeply ingrained commonalty of the developing growth curves of intention. Natural law, governing the development of intention, needs to be recognised at the individual level.

Thus, reading literary texts plays an obvious role for individual adaptation and the comprehension of some thoughts and courses of events in the history of ideas. The basic structure of the selected materials suggests a cumulative progress, e.g., increasing morphological complexity in a resulting discourse or in other words, an increased effectiveness in the adaptation to the tasks of reading.

*Comment:* Finally, it is worthwhile to remember that the AaO axiom stipulates that the Agent must get its description through the Objective, an axiom that has been validated empirically by the completion of this step.

## References

- Baeyer, H. C., von (1999). Nota bene. From classical chemistry to super-strings, effective notation can shape the very development of a discipline. *The Sciences*, 39 (1), 12-14.
- Bierschenk, B. (1984). Steering mechanisms for knowability. *Cognitive Science Research*, 1. Lund University, Sweden.
- Bierschenk, B. (1991). The schema axiom as foundation of a theory for measurement and representation of consciousness. *Cognitive Science Research*, 38. Lund University, Sweden.
- Bierschenk, B. (1993/2013). The fundamentals of perspective text analysis. *Cognitive Science Research*, 45. Copenhagen University, Denmark & Lund University, Sweden.
- Bierschenk, B. (2002). Real time imaging of the rotation mechanism producing interview-based language spaces. *Cognitive Science Research*, 83. Copenhagen University, Denmark & Lund University, Sweden.
- Bierschenk, B. (2005). Controlling limits for knowability. *Cognitive Science Research*, 97. Copenhagen University, Denmark & Lund University, Sweden.
- Bierschenk, I. (1989). Language as carrier of consciousness. *Cognitive Science Research*, 30. Lund University, Sweden.
- Bierschenk, I. (1992). An excursion into the ecological co-ordinates of language space. *Cognitive Science Research*, 43. Lund University, Sweden.
- Bierschenk, I. (1999/2003). The essence of text: A dialogue on Perspective Text Analysis. *Cognitive Science Research*, 70. Copenhagen University, Denmark & Lund University, Sweden.

- Bierschenk, I., & Bierschenk, B. (2004). Diagnose der Leistungsheterogenität durch die Perspektivische Textanalyse: VERTEX (Diagnosing heterogeneity in achievement by means of Perspective Text Analysis: VERTEX). In: W. Bos, E.-M. Lankes, N. Plaßmeier, & K. Schwippert (Eds.), *Heterogeneity: Eine Herausforderung an die Bildungsforschung (Heterogeneity: A Challenge to Educational Research)* (pp.16-28). Münster: Waxmann.
- Bierschenk, I., & Bierschenk, B. (2011). Perspective Text Analysis: Tutorial to Vertex. *Cognitive Science Research*, 100. Copenhagen University & Lund University.
- Ebeling, W., Scharnhorst, A., Montaña, M. A. J., & Karmeshu (1999). Evolution- und Innovationsdynamik als Suchprozess in komplexen adaptiven Landschaften. In K. Mainzer (Ed.), *Komplexe Systeme und Nicht-lineare Dynamik in Natur und Gesellschaft. Komplexitätsforschung in Deutschland auf dem Weg ins nächste Jahrhundert* (pp. 446-473). Heidelberg: Springer-Verlag.
- Hestenes, D. (1993). *New foundations for classical mechanics*. Dordrecht: Kluwer Academic. (Original work published 1986)
- Kant, I. (1784, September 30). An answer to the question: "What is Enlightenment?" Königsberg in Prussia.
- Kant, I. (1785). Die Grundlegung zur Metaphysik der Sitten (short GMS).
- Kant, I. (1775). *Die drei Kritiken in ihrem Zusammenhang mit dem Gesamtwerk [The three critiques in their relation to the total work]*. Stuttgart: Alfred Kröner Verlag.
- McNamara, K. J. (1997). *Shapes of time. The evolution of growth and development*. Baltimore: The Johns Hopkins University Press.
- SigmaPlot (2008). *Exact graphs for exact science. User's manual* (Version 13). Chicago: SPSS Inc.
- Wheeler, J. A. (1998). *Geons, black holes & quantum foam. A life in physics*. New York: Norton.
- Williams, G. C. (1966). *Adaptation and natural selection: A critique of some current evolutionary thought*. Princeton, NJ: Princeton University Press.
- Wisdom, J. (2003). Swimming in spacetime: Motion by cyclic changes in body shape. *Science*, 299(5614) 1865-1869.